CLAIMS

What is claimed is:

1. A method of iterative parameter estimation comprising:

performing a first estimation of a first portion of a signal to obtain first parameters of the first portion of the signal, wherein the signal contains no known data symbols;

demodulating the first portion of the signal using the first parameters to recover data symbols;

checking the demodulated first portion of the signal to confirm correct demodulation of the first portion of the signal;

performing a second estimation of the first portion of the signal using the recovered data symbols to obtain second parameters of the first portion of the signal; and

demodulating a second portion of the signal using the second parameters when the first portion of the signal is correctly demodulated.

2. The method of claim 1, wherein the first portion is a header of the signal.

3. The method of claim 1, wherein the first portion is a robust portion used for parameter estimation of the signal.

4. The method of claim 1, wherein the first portion of the signal is encoded for error correction.

5. The method of claim 4, wherein the second portion of the signal is not coded.

6. The method of claim 4, wherein the second portion is coded.

7. The method of claim 1, wherein the signal is a signal in accordance with Bluetooth wireless technology.

8. The method of claim 1, wherein the second estimation is performed using data aided estimation techniques.

9. The method of claim 1, wherein the first estimation is performed using non-data aided or decision directed techniques.

10. The method of claim 1, wherein the first portion of the signal is binary Phase Shift Keying modulated and wherein the second portion is M-ary Phase Shift Keying modulated, wherein M is 2, 4, or 8.

11. The method of claim 1 further comprising:

requesting a retransmission of the signal, if the first portion is not demodulated correctly.

12. The method in claim 1, wherein at least one of the first and/or second parameters is a frequency offset.

13. The method in claim 1, wherein at least one of the first and/or second parameters is an optimum sampling time that is used in processing the second portion.

14. The method in claim 1, wherein at least one of the first and/or second parameters is a set of one or more coefficients used for channel equalization.

15. The method of claim 1, wherein the signal is a signal in a wireless ad-hoc network.

16. The method of claim 1, wherein the first and second parameters are of the same type.

17. The method of claim 1, wherein the second estimation and the demodulation of the first portion are performed at the same time.

18. An apparatus for iterative parameter estimation comprising:

logic that performs a first estimation of a first portion of a signal to obtain first parameters of the first portion of the signal, wherein the signal contains no known data symbols;

logic that demodulates the first portion of the signal using the first parameters to recover data symbols;

logic that checks the demodulated first portion of the signal to confirm correct demodulation of the first portion of the signal;

logic that performs a second estimation of the first portion of the signal using the recovered data symbols to obtain second parameters of the first portion of the signal; and

logic that demodulates a second portion of the signal using the second parameters when the first portion of the signal is correctly demodulated.

19. The apparatus of claim 18, wherein the first portion is a header of the signal.

20. The apparatus of claim 18, wherein the first portion is a robust portion used for parameter estimation of the signal.

21. The apparatus of claim 18, wherein the first portion of the signal is encoded for error correction.

22. The apparatus of claim 21, wherein the second portion of the signal is not coded.

23. The apparatus of claim 21, wherein the second portion of the signal is coded.

24. The apparatus of claim 18, wherein the signal is a signal in accordance with Bluetooth wireless technology.

25. The apparatus of claim 18, wherein the apparatus is a Bluetooth wireless technology device.

26. The apparatus of claim 18, wherein the second estimation is performed using data aided estimation techniques.

27. The apparatus of claim 18, wherein the first estimation is performed using non-data aided or decision directed techniques.

28. The apparatus of claim 18, wherein the first portion the signal is binary Phase Shift Keying modulated and wherein the second portion is M-ary Phase Shift Keying modulated, wherein M is 2, 4, or 8.

29. The apparatus of claim 18 further comprising:

logic that requests a retransmission of the signal, if the first portion is not demodulated correctly.

30. The apparatus of claim 18, wherein at least one of the first and/or second parameters is a frequency offset.

31. The apparatus of claim 18, wherein at least one of the first and/or second parameters is an optimum sampling time that is used in processing the second portion.

32. The apparatus of claim 18, wherein at least one of the first and/or second parameters is a set of one or more coefficients used for channel equalization.

33. The apparatus of claim 18, wherein the signal is a signal in a wireless ad-hoc network.

34. The apparatus of claim 18, wherein the first and second parameters are of the same type.

35. The apparatus of claim 18, wherein the second estimation and the demodulation of the first portion are performed at the same time.

36. A method of receiving a signal in a wireless ad-hoc network comprising:

performing a first estimation of a first portion of the signal to obtain first parameters of the first portion of the signal, wherein the signal contains no known data symbols;

demodulating the first portion of the signal using the first parameters to recover data symbols;

checking the demodulated first portion of the signal to confirm correct demodulation of the first portion of the signal;

performing a second estimation of the first portion of the signal using the recovered data symbols to obtain second parameters of the first portion of the signal; and

demodulating a second portion of the signal using the second parameters when the first portion of the signal is correctly demodulated.

37. The method of claim 36, wherein the ad-hoc network is a network in a Bluetooth wireless system.